

## Application Guide

# Products for Industrial Applications

## Solutions for Power Electronics

Business groups supporting both TDK and EPCOS brand products, organized according to product categories.

### Magnetics

- Ferrites
- Transformers
- Power Inductors
- Signal Use Inductors
- Multilayer Inductors
- Signal EMC Filters
- Power EMC Filters
- EMC and RF Engineering

### Capacitors

- Screw Terminal Aluminum Electrolytic
- Snap-In Aluminum Electrolytic
- DC Box Film
- DC Plastic and Metal Can
- AC Box Film
- AC Plastic and Metal Can
- Power Electronic Film
- Power Factor Correction Film
- Power Quality Solutions

### Sensors

- NTC Sensors
- Pressure Sensors
- Applied Sensors

### Ceramic Capacitors

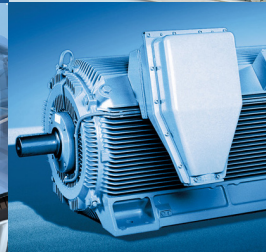
- General and Small Capacitors
- High Capacitance Capacitors
- Applied Products
- Dielectric Materials and Products

### Protection Devices

- Piezo
- CeraLink Capacitors
- Inrush Current Limiters
- PTC Thermistors
- Disk Varistors
- Multilayer Varistors
- Surge Arresters

### SAW and BAW Filter Products

- Multilayer Modules
- MEMS Products
- Multilayer HF Components
- Dielectric Components
- Isolators and Circulators



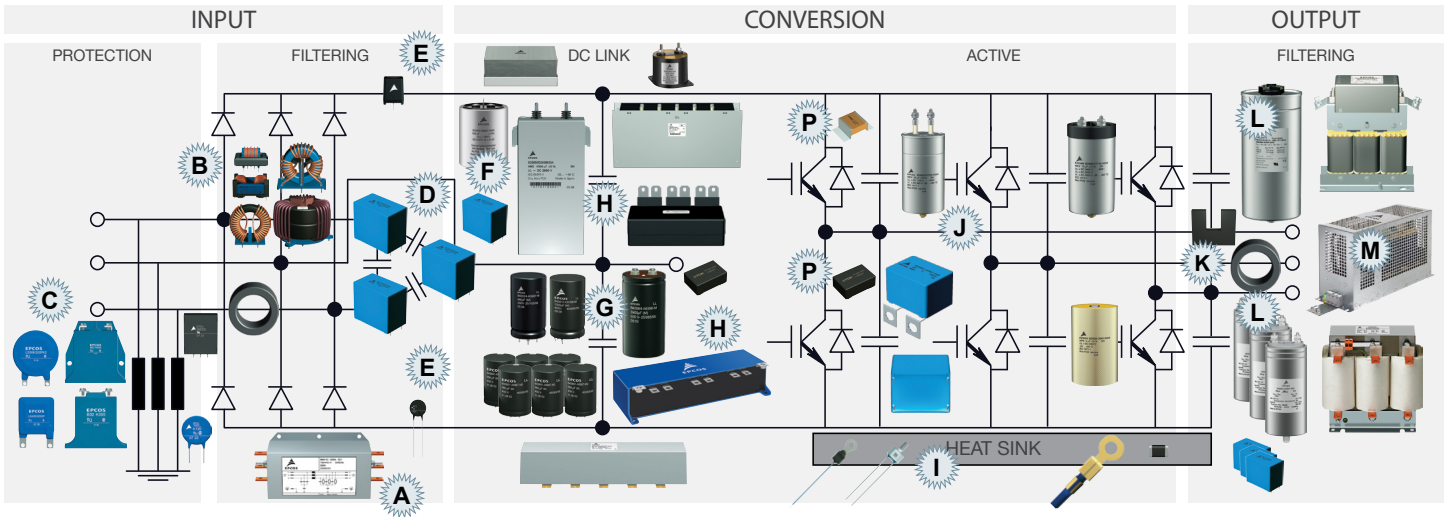
# Product Guide

Series	Technical Data	Features	Series / Type	Power Level			Input Protection	Input Filtering	Conversion	Output Filtering	Output Protection
				5kW	50kW	500kW					
Aluminum Electrolytic Capacitors											
Screw Terminal		$V_R$ : 16 ... 600 V DC $C_R$ : 560 ... 220,000 $\mu$ F Useful life up to +105 °C, 8000 h or +85 °C, 15000 h	<ul style="list-style-type: none"> <li>High ripple current capability</li> <li>Long useful life, &gt; 20 years possible</li> <li>Compact can size</li> <li>Special design for base cooling</li> <li>Self-extinguishing electrolyte available</li> </ul>	B4145x B415x0 B437xx							
4-/5-pin Snap-in Terminals & Solder Pins		$V_R$ : 350 ... 500 VDC $C_R$ : 220 ... 3300 $\mu$ F +85 °C, up to 3000 h	<ul style="list-style-type: none"> <li>High ripple current capability</li> <li>Long useful life, &gt; 20 years possible</li> <li>Compact can size</li> </ul>	B435x2 B435x3 B435x6							
Snap-in		$V_R$ : 160 ... 600 V DC $C_R$ : 47 ... 3300 $\mu$ F +105 °C, up to 8000 h	<ul style="list-style-type: none"> <li>High ripple current capability</li> <li>Long useful life, &gt; 20 years possible</li> <li>Compact can size</li> </ul>	B43509, B4354x, B436x0, B436x2, B436x4							
DC Film Capacitors											
MKP DC Link		$V_R$ : 300 ... 1300 V DC $C_R$ : 0.47 ... 480 $\mu$ F $T_{op}$ : -40 ... +105 °C Life to +70 °C, 100,000h	<ul style="list-style-type: none"> <li>High power and high density series</li> <li>High vibration design, low profile</li> <li>2, 4, and 12-pin versions</li> <li>Lead spacing 27.5 ... 52.5 mm</li> </ul>	B32674 ... B32678 B32774 ... B32778							
MKP Snubber		$V_R$ : 850 ... 2000 V DC $C_R$ : 68 nF ... 5.6 $\mu$ F	<ul style="list-style-type: none"> <li>Operating temperature up to +110 °C</li> <li>Service life 200 kh at 1.0 · <math>V_R</math>, +85 °C</li> <li>Various terminal configurations</li> <li>High dv/dt, current, &amp; frequency</li> </ul>	B32656S							
MFP Snubber		$V_R$ : 1000 ... 2000 V DC $C_R$ : 22 nF ... 0.68 $\mu$ F	<ul style="list-style-type: none"> <li>Operating temperature up to +110 °C</li> <li>Service life 200 kh at 1.0 · <math>V_R</math>, +85 °C</li> <li>Various terminal configurations</li> <li>High dv/dt, current, &amp; frequency</li> </ul>	B32686S							
MKP DC		$V_R$ : 700 ... 1980 V DC $C_R$ : 40 ... 1500 $\mu$ F $T_{op}$ : -55 ... +70 °C UL810 approved	<ul style="list-style-type: none"> <li>High peak current capability</li> <li>Aluminum can</li> </ul>	B2562x							
MKP DC LSI		$V_R$ : 500 ... 1200 V DC $C_R$ : 50 ... 400 $\mu$ F $T_{op}$ : -55 ... +70 °C	<ul style="list-style-type: none"> <li>High peak current capability</li> <li>Low self inductance</li> <li>Molded plastic can</li> </ul>	B2563x							
PCC LP		$V_R$ : 450 ... 900 V DC $C_R$ : 300 ... 3000 $\mu$ F $T_{op}$ : -25 ... +105 °C	<ul style="list-style-type: none"> <li>Compact size</li> <li>High volumetric efficiency</li> <li>Customer specific designs</li> </ul>	B25655							
MKK DC MKK DCI PCC HP		$V_R$ : 700 ... 6 000 V $C_R$ : 100 ... 30 000 $\mu$ F	<ul style="list-style-type: none"> <li>DC link and series resonant circuits</li> <li>Rapeseed oil or dry gas impregnation</li> </ul>	B25655A B25650 B25750							
MKK DCR		$V_R$ : 800 ... 1500 V DC $C_R$ : to 12 500 $\mu$ F $T_{op}$ : -25 ... +80 °C	<ul style="list-style-type: none"> <li>Low ESL</li> <li>Resin filled</li> </ul>	B25640							
Sensing Devices											
NTC Temp sensors		$T_{op}$ : -55 ... +200 °C $R_{25^\circ C}$ : 5 k $\Omega$ ... 100 k $\Omega$	<ul style="list-style-type: none"> <li>Thermal coupling through metal tag</li> <li>UL approval (E69802) for M703</li> </ul>	B57703 (M703 & M1703 types)							
		$T_{op}$ : -55 ... +125 °C $R_{25^\circ C}$ : 1 k $\Omega$ ... 150 k $\Omega$	<ul style="list-style-type: none"> <li>Thermal coupling through screw case</li> <li>10 000hr at 100°C, &lt;5% <math>\Delta R_{25}/R_{25}</math></li> </ul>	B57045K (K45 type)							
		$T_{op}$ : -10 ... +100 °C $R_{100^\circ C}$ : 3300 $\Omega$	<ul style="list-style-type: none"> <li>Glass NTC element, surface probe</li> <li>Thermal time constant ~5s</li> </ul>	B58100 (T120 & F120 type)							
Protection Devices											
Varistors		$I_{Tmax}$ : 25 ... 100 kA (8/20 $\mu$ s) $V_{RMS}$ : 75 ... 1100 V	<ul style="list-style-type: none"> <li>Block MOV, 32 ... 80mm</li> <li>Chassis mount</li> </ul>	B32, B40, B60, B80							
		$I_{Tmax}$ : 40 ... 75 kA(8/20 $\mu$ s) $V_{RMS}$ : 130 ... 550 V	<ul style="list-style-type: none"> <li>Strap MOV, 40 ... 50mm</li> <li>Chassis or PCB mount</li> </ul>	LS40, LS41, LS42 LS50							
		$I_{Tmax}$ : 0.8 ... 20 kA(8/20 $\mu$ s) $V_{RMS}$ : 11 ... 1000 V	<ul style="list-style-type: none"> <li>Disc MOV, 5 ... 25mm</li> <li>PCB mounted, leaded</li> </ul>	S05, S07, S10, S14 S20, S25							
		$I_{Tmax}$ : 400 ... 2 500 A $V_{RMS}$ : 130 ... 550 V	<ul style="list-style-type: none"> <li>CU3225, CU4032, CU4648</li> </ul>	B726...							
Surge Arrester		$V_{RMS}$ : 255 VAC $I_{Impulse}$ : 25 ... 100 kA	<ul style="list-style-type: none"> <li>EN 61643-11 class I, II or III types</li> <li>Chassis or PCB mount</li> </ul>	B88069							
Inrush Current Limiter		$V_R$ : to 800 V (DC or RMS) $C_{Th}$ : 2.3 Joules / °K	<ul style="list-style-type: none"> <li>PTC, Housed Plastic Case</li> </ul>	B5910x							
		$I_R$ : to 30 A $R_{25^\circ C}$ : 1 ... 120 $\Omega$	<ul style="list-style-type: none"> <li>Disc NTC: 8...32mm</li> </ul>	B57xxxS, B57127P							

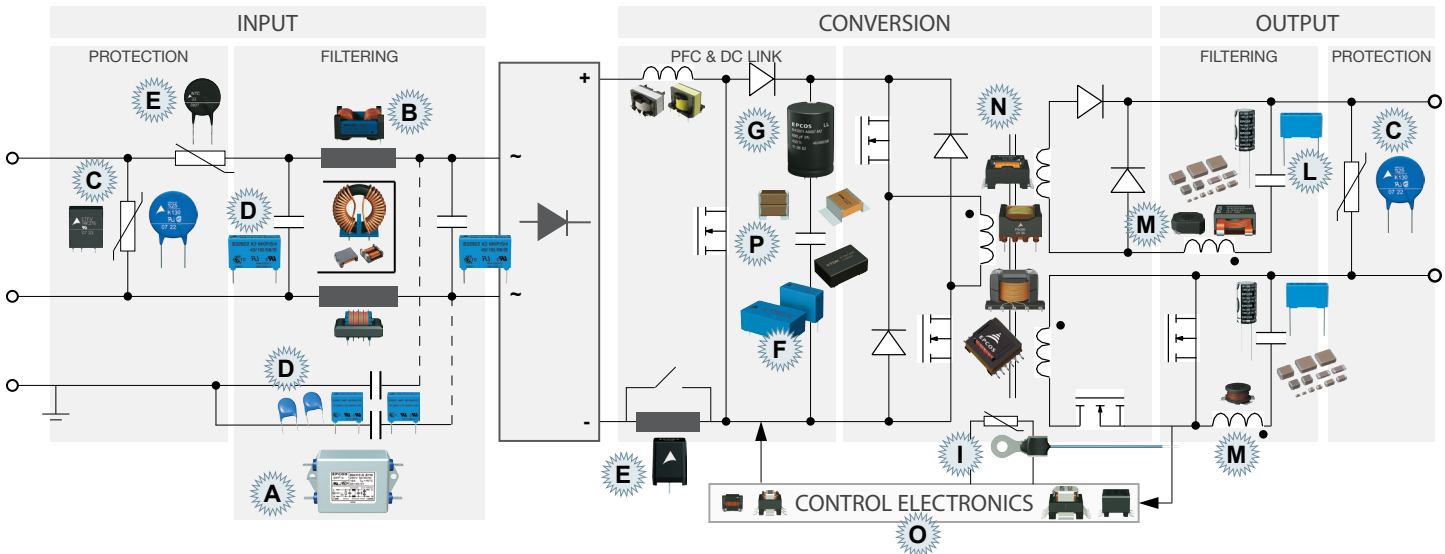


# Solutions for Power Electronics

## Frequency Converter



## Power Supply



- A: Input EMC Filter
- B: Common Mode Choke or Ferrite Filtering
- C: Varistors (leaded, strap & block)
- D: X Capacitors, Y Capacitors filtering
- E: PTC or NTC Inrush Current Limiter
- F: DC Link Film Capacitors
- G: DC Link AI Snap-in or Screw Terminal
- H: DC Link Film; MKP, PCC, MKV, or MKK

- I: Temperature sensors (NTC or PTC)
- J: Snubbing or commutating capacitors
- K: Ferrite Cores (Ring, E, I, U, other)
- L: Output Filtering Capacitors (can, box, or chip)
- M: Output Filtering Inductors (AC and DC)
- N: Power Transformers
- O: Housekeeping Transformers
- P: Multilayer Ceramic Capacitors (MLCC) & CeraLink

For further information please contact your TDK Sales Office or Distribution Partner